

**COMPATIBILITY DETERMINATION**  
**NCDOT REQUEST**  
**for**  
**N. C. HIGHWAY 12 TEMPORARY EASEMENTS**  
**on**  
**PEA ISLAND NATIONAL WILDLIFE REFUGE**  
**DARE COUNTY, NORTH CAROLINA**



**U. S. FISH AND WILDLIFE SERVICE**  
**ALLIGATOR RIVER NATIONAL WILDLIFE REFUGE COMPLEX**  
**MANTEO, NORTH CAROLINA**

**MARCH 2013**

**U. S. FISH AND WILDLIFE SERVICE****COMPATIBILITY DETERMINATION**

**Use:** Project B-2500A on NC 12 over Pea Island (New) Inlet – Phase IIa: Replacement of the temporary steel bridge at Pea Island National Wildlife Refuge

**Refuge Name:** Pea Island National Wildlife Refuge (Refuge)

**Establishing and Acquisition Authority (ies):** Executive Order 7864 - April 12, 1938

**Refuge Purpose(s):** “ — as a Refuge and breeding ground for migratory birds and other wildlife — “

**National Wildlife Refuge System Mission:**

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

**Description of Use:**

**Bridge Replacement Project (B-2500):**

A Final Environmental Impact Statement and Section 4(f) Evaluation (FEIS) and Record of Decision (ROD) were prepared to evaluate impacts from alternatives under the National Environmental Policy Act (NEPA). Final NEPA documentation selected replacement of the Bonner Bridge along a corridor parallel to the existing bridge (Phase I) and resolving NC 12 issues under the umbrella of a Transportation Management Plan (Phase II TMP) as need arises. Presently the North Carolina Department of Transportation (NCDOT) is in preliminary construction processes for replacing the Herbert C. Bonner Bridge (Bridge No. 11) on NC 12 over Oregon Inlet. The NCDOT also plans to replace the temporary steel bridge over Pea Island (New) Inlet on North Carolina Highway 12 (NC 12). The NCDOT requested temporary easements along the existing right-of-way (ROW) for NC 12 to facilitate construction of the new bridge (Phase IIa). Although three bridges are currently under plans for simultaneous construction, an underlying assumption of the Phase II TMP was construction of bridges in phases and separated by time intervals. An Environmental Assessment was prepared for the Phase IIa bridge.

The NCDOT record of NEPA documentation and the selected alternative can be viewed at <http://www.ncdot.org/projects/bonnerbridgerepairs/>.

As currently planned the new bridge would be approximately 2.1 miles long and would affect approximately 3.84 acres of refuge land outside of existing ROW under temporary easement. Upon completion of construction the areas covered by temporary easements would be fully restored by NCDOT. Once the bridge is completed two parking lots currently on the Refuge would be removed. The first one on the east side of the existing highway would be removed and the area restored to upland grasslands. The second parking lot (New Inlet Parking Lot) provides primitive access for small boats, canoes, and kayaks. As currently planned this parking and access would also be eliminated due the elevated bridge structure through the area. NCDOT is exploring other possibilities to provide public access in the vicinity.

**Availability of Resources:**

The Phase IIa bridge construction project is now approaching the contract awarding stage so it is difficult to assess the overall demand on Refuge resources into the future. Since 2001, the overall project planning phases have generated substantial demands on Refuge staff time. The Phase IIa process for alternative selection required substantial Refuge staff time to attend meetings and review ideas presented by NCDOT during the planning and design phase. Preparation of the Compatibility Determination (CD), coordination with other offices, public involvement, and assembly of the Special Use Permit package also requires substantial Refuge staff time. Extensive consultation with the Division of Ecological Services Raleigh Field Office and an intra-Service Section 7 Endangered Species Act consultation will be necessary, as endangered species will be affected by the selected alternative. Cultural and archaeological resource consultation is also required.

There are considerable expenditures for materials and supplies to collect and analyze data, monitor periodic impacts from construction and maintenance activities, monitor right-of-way permit compliance, and coordinate with NCDOT over the project life. As a result of Hurricane Irene (August 2011), NCDOT is concurrently planning multiple phases of the selected alternative for the bridge replacement (Phase I) and implementation of the NC 12 Transportation Management Plan (Phase II). NCDOT is asking the Refuge to consider additional right-of-way modifications for Phase II, as well as, maintenance and construction special use permits for NC 12. Refuge management expects continued demands on staff time as Phase II is planned and executed. The level of involvement could increase substantially depending upon storm frequency and intensity for the remainder of the project life (50-100 years).

**Anticipated Biological Impacts of Use:**

Phase IIa, NC 12 Transportation Management Plan: Phase IIa impacts are linked to the direct, indirect, and cumulative impacts of the use. This analysis includes indirect and cumulative impacts associated with the use when conducted in conjunction with other existing or planned uses of the Refuge, and uses of adjacent lands or waters that may exacerbate the effects of a Refuge use (603 FW 2.11B(3)). At this time, it is not possible to describe the specific impacts in terms of loss of quantity and quality of habitat. However, Phase II has been implemented concurrent with Phase I as a result of Hurricane Irene impacts on NC 12 in August 2011. So, using the information in the ROD and information provided by NCDOT at Phase II planning meetings, it is possible to describe potential impacts associated with the various proposals and alternatives presented by NCDOT. Consequently, those anticipated impacts are partially addressed in the section under the heading, "Stipulations Necessary to Ensure Compatibility" for the Phase IIa new bridge Temporary Easement Special Use Permit. It is anticipated that additional stipulations will be included in any future Compatibility Determination associated with Phase II proposed uses.

Direct Impacts:

The Temporary Easement acreage estimate does not consider all direct, indirect, and cumulative impacts accruing from highway construction and maintenance in the vicinity of the project. Direct and indirect impacts of the use were considered, as well as, collateral and cumulative impacts to Refuge habitat (603 FW 2.11B(3)). The analysis considered the overall area that will be impacted by the proposed use and concluded that there will be additional impacts beyond the 3.84 acres of Refuge land to be included temporary easements. These additional areas and uses include the existing ROW for NC 12, the Bonner Bridge with associated rock revetment, the Old Coast Guard Station Road ROW, other Temporary

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Construction Easements, and the Terminal Groin.

Temporary Construction Easements: Temporary construction easements are often necessary to facilitate construction. Depending upon the nature of construction, activity occurring in these easement areas will cause habitat impacts. Although the acreage will return to a Refuge use at the end of construction, the value of the habitat is degraded for a period of time. Restoration can compensate for some of this loss in value, but, due to the loss in habitat value over time, mitigation at some rate is required to achieve the legal requirement of no net loss in habitat quantity or quality. The Temporary Easements will impact 3.84 acres will be impacted by project related uses. A mitigation plan will be developed jointly by NCDOT and the Refuge.

Existing NC 12 Right-of Way: In 1963, the current NC 12 ROW affected by the B-2500 project was established by amending the original ROW Permit/Easement to tie the Bonner Bridge to the rest of NC 12. At the time, no impact analysis or mitigation was completed for this use of Refuge land. Mitigation was provided for relocation of an approximate 3-mile section of NC 12 and the Phase IIa bridge is to be constructed in a portion of the new alignment established for that relocation project. The past impacts are part of the baseline and are not counted in this analysis. The proposed use produces future impacts. The concrete, rock, asphalt and other associated NC 12 features produce impacts associated with habitat fragmentation, wildlife disturbance, increased invasive species presence, a decrease in diversity of native wildlife and plant resources, and an overall reduction in habitat quality. There are 3.84 acres of impacts associated with these project related features.

Indirect and Cumulative Impacts:

Phase I Bridge Replacement Project (B-2500):

The proposed new ROW alignment for constructing the Phase I Bonner Bridge replacement will have direct impacts on a total of 1.152 acres of Refuge land. Due to the intensity of development that will occur beyond replacing the bridge, the overall area will be highly impacted during and after construction of the new bridge. The ROW modification was determined to be minor and for the purpose of providing a safer highway (50 CFR 26.41; 603 FW 2). For a minor modification of an existing ROW compensatory mitigation can be provided so as to result in no net loss of habitat quantity and quality on Refuge land. Additional guidance came from the Service Mitigation Policy (501 FW 2).

The Terminal Groin: Designing the Phase I bridge replacement and the NC 12 Transportation Management Plan around the assumption that the Terminal Groin must remain in place links the Terminal Groin to the proposed use and is identified in this Compatibility Determination as an indirect and cumulative impact. The impacts associated with the Terminal Groin were dealt with in a separate Terminal Groin Compatibility Determination and its Easement terms and conditions. For further information, reference the Terminal Groin Easement Which was a renewal of a Permit dated June 20, 1989.

After reviewing the available information and according to my best professional judgment, I find that the Phase I Bridge Replacement right-of-way modification requested by NCDOT complies with the standards for a minor modification and can be found to be compatible with the mission of the National Wildlife Refuge System and the purpose for establishing Pea Island National Wildlife Refuge. This determination is conditional upon full compliance with all Stipulations Necessary to Ensure Compatibility and the terms and conditions in a new ROW Permit.

**Public Review and Comment:** Notice of this draft Compatibility Determination was released to

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local newspapers, local radio and television stations, the Dare County Public Library, and will be posted on the Refuge web page as well as the information desk in the Gateway Visitors Center for a period of no less than 14 days. Comments received are included as an Appendix to this document. Responses to comments are also included as an Appendix to this document.

**Determination:**

\_\_\_\_\_ Use is Not Compatible

  X   Use is Compatible With the Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** These stipulations were prepared to ensure that the Refuge purpose and the NWRs mission can be achieved with the NC Highway 12 ROW Temporary Easements. Included in the stipulations is the return of Temporary Easement areas of the Project to a condition as good or better than before the project. (see page 4 under the heading of Construction Staging Measures of the NCDOT February 13, 2013 cover letter requesting permits).

Monitoring and Modeling within the Refuge as part of the NC 12 Transportation Management Plan must continue and/or, be initiated if not started. NCDOT will fund and implement a Refuge habitat and NC 12 vulnerability forecasting study in consultation with USFWS (see Section 3.3.2 of ROD).

It is incumbent upon NCDOT to ensure full compliance with all terms and conditions within or attached to Special Use Permit 2013-003

Monitoring and control of exotic and invasive species will be required during design and construction of Phase I as soon as introduction of offsite construction materials occurs and ground disturbance activities occur. Common Reed, *Phragmites australis*, is the most likely species requiring control. The Refuge will coordinate with NCDOT. NCDOT and the Refuge will independently conduct monitoring and share the information. A control plan will be developed by NCDOT which includes the necessary information the Refuge needs and NCDOT will communicate this to the Refuge 60 days in advance of any planned treatment. The Refuge will prepare the necessary Intra-Service Pesticide Use Proposals and Section 7 Consultations. The Refuge will communicate the approvals to NCDOT and then NCDOT will implement the control plan within all old, new, and temporary easement areas of the Phase I Bridge project. NCDOT will give seven days prior notice to the Refuge when the treatment will occur. This work will continue through the second growing season after the Phase I project is complete and will be reinitiated anytime ground disturbance activities occur within the Phase I existing ROW and in areas outside the existing ROW where NCDOT has requested a Special Use Permit for maintenance which causes ground disturbance or a modification of the existing easement.

The U. S. Fish and Wildlife Service is responsible for the conservation and protection of migratory birds from harm or harassment within the Refuge and the Presidential Proclamation Boundary (Migratory Bird Treaty Act {MBTA: 16 USC § 703 et seq.}). This Proclamation established certain lands and waters within and adjacent to, and in the vicinity of the Refuge as a closed area. Its exterior boundary is described in the Federal Register {Vol. 3 No. 93 Thursday, May 12, 1938.}. It is incumbent upon NCDOT to ensure compliance with the intent of this Proclamation.

Fifteen terms and conditions to be included in the ROW Temporary Easement Permit issued in

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response to the NCDOT request are specified in 50 CFR 29.21-4. By reference, these terms and conditions are hereby considered to be a part of this Compatibility Determination and will be included (or minor variations thereof) in the ROW Permit.

All other required Federal and State permits must be acquired and adhered to by NCDOT.

**Justification:** The Phase IIa Bridge is being designed to meet standards for maintaining the flow of traffic along NC 12 and constructing the bridge within existing ROW with the exception of necessary Temporary Easement areas. NCDOT will employ many strategies to avoid and minimize impacts to sensitive areas for the temporary construction easements to reduce the level of impact on the Refuge. Assuming full compliance with the Stipulations in this CD, the terms and conditions in a Special Use Permit granting Temporary Easements as described by NCDOT for this project there should be no net loss in habitat quantity or quality with this Special Use Permit.

**NEPA Compliance:**

Categorical Exclusion \_\_\_\_\_.  
Environmental Assessment X\*.  
Environmental Impact Statement X\*.  
FONSI \_\_\_\_\_.

X\* = by reference - The NCDOT record of NEPA documentation and the selected alternative can be viewed at <http://www.ncdot.org/projects/bonnerbridgerepairs/>.

**References**

Dolan, R., Dean, R., Hayden, B., McCafferty, H., Erwin, M, Richardson, D., Stewart, D. 2010. Environmental Impacts of the Oregon Inlet/Pea Island Terminal Groin. Coastal Research Associates, Charlottesville, VA. 57pp. plus attachments.

\*Federal Highway Administration & North Carolina Department of Transportation. 2010. Record of Decision for NC 12 Replacement of Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet. Federal-Aid No. BRS-2358(15). NCDOT Project Definition: 32635. TIP Project No. B-2500. Dare County, North Carolina

\*Federal Highway Administration & North Carolina Department of Transportation. 2013. Draft Environmental Assessment for Pea Island Long-Term Improvements Bonner Bridge Replacement Project Phase IIa. Federal-Aid No. BRNFH-0012(55). NCDOT Project Definition: 32635. STIP Project No. B-2500A. Dare County, North Carolina

Riggs, S. R., Ames, D. V. , Culver, S. J. , Mallinson, D. J. , Corbett, D. R. , John P. Walsh, 2009. Eye of a human hurricane: Pea Island, Oregon Inlet, and Bodie Island, northern Outer Banks, North Carolina, In *America's Most Vulnerable Oceanfront Communities*, eds., Kelley, J.T., Pilkey, O.H., and Cooper, J.A.G. Geological Society of America Special Paper 460-04, p. 43-72

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Riggs, S. R., Ames, D. V. , Culver, S. J. , Mallinson, D. J., 2011b, The Battle for North Carolina's Coast: Evolutionary History, Present Crisis & Vision for the Future. The University of North Carolina Press, Chapel Hill, NC. 142 pp.

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U.S. Fish and Wildlife Service. 1993. Fish and Wildlife Service Manual. 501 FW 2. United States

Mandatory 10- or 15-Year Re-evaluation Date: \_\_\_\_\_

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# **APPENDIX I**

## **EVIDENCE OF PUBLIC NOTICE**



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# **APPENDIX II**

## **COMMENTS**